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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Group Art Unit:

BERNARD SCHNEIDER

Examiner:

Serial No.: US National Phase of
PCT/FR01/02335

Filed: concurrently herewith

For: FIXING HEAD FOR TUBES

PRELIMINARY AMENDMENT AND INFORMATION DISCLOSURE STATEMENT

Honorable Assistant Commissioner for Patents
Washington, DC 20231

Sir:

Before calculation of the filing fee, please amend the
above-identified application as follows:

IN THE ABSTRACT:

Please add the following abstract:

ABSTRACT OF THE DISCLOSURE

A tube provided with a head and a skirt having an orthogonal cross section of particular shape in which the largest inscribed circle has a diameter D . The head, which is designed for fixing of a rigid closure, is provided with a circular cylindrical wall extending towards the inside of the tube and enclosing an orifice concentric to the inscribed circle and having a large diameter, typically more than $0.8D$, and takes up substantially the internal volume of the skirt end over a height less than D , preferably less than $D/3$. The invention is further directed to a closure element, in particular a convenience closure, adapted for fixing substantially irreversibly on the tube head, comprising a base having an external outline matching the shape of the orthogonal cross section of the tube skirt, and a skirt having a diameter in the range of $0.5D$ to $0.9D$.

IN THE SPECIFICATION:

Page 1, line 3, [Technical domain] Field of the invention;

line 14, Description of related art.

Page 3, line 10, delete "Problem raised";

line 18, Summary of the invention.

Page 10, between lines 27 and 28, insert: --Brief description of the drawings--.

Page 11, line 7, insert: --Description of the preferred embodiments--.

IN THE CLAIMS:

Please amend the claims as set forth hereinbelow and in the attached appendix:

4. (Amended) Tube according to claim 2, characterized in that the orthogonal section of the skirt (2) is not a circle centred over the axis of the large-diameter-opening (15), so that the capping (20) is also locked in rotation when it reaches its end position.

5. (Amended) Tube according to claim 1, in which the head (10) is fitted with an end wall comprising bosses (13) entering the inner volume of the end of the skirt (2), each boss (13) having a bottom wall (14) whose slope is inclined relative to the plane that is perpendicular to the axis of the opening.

6. (Amended) Tube according to claim 1, in which said bosses (13) have a side wall (16) whose shape is deduced by staggering the shape of the skirt (2) and of the circular cylindrical wall (11) surrounding the large-diameter-opening (15), the stagger distance being less than $D/10$.

7. (Amended) Tube according to claim 1, in which the lower part of the head (10) is fitted with a jutting part (17) oriented towards the inside of the tube.

9. (Amended) Tube according to claim 5, in which the section of the skirt (2) is an ellipse, the diameter of the large-diameter-opening (15) lies between 0.5 and 0.9 times the short axis of the ellipse, and in which the bosses (13) occupy the complementary parts of the ellipse formed by two zones extending around the long axis of the ellipse and have a side wall (16) deduced by inner displacement of the elliptic skirt (2) over a distance in the order of one millimetre and outer displacement of the circular cylindrical wall (11) surrounding the large-diameter-opening (15).

10. (Amended) Capping (20), in particular a service-cap (20), able to be fixed in substantially irreversible manner to the head of the tube, according to claim 1, characterized in that it comprises a base (21) whose outer contour follows the shape of the orthogonal section of the skirt of said tube and is fitted with a large-diameter-skirt (22) whose diameter

typically lies between $0.5 \cdot D$ and $0.9 \cdot D$, D being the diameter of the largest circle inscribed in the outer contour of said base, said large-diameter-skirt having a height less than D , preferably less than $D/3$ and being provided with substantially irreversible fixing means (23) to fix the capping (20, 200) to the head (10) of tube (1).

12. (Amended) Capping according to claim 10, in which the base (21) is fitted with a peripheral skirt intended to be inserted around the edge of the tube head.

13. (Amended) Service-cap according to claim 10, comprising a base (21) and a cap end (201) pivoting around a hinge (202 and 203), said hinge comprising at least one extension part (203), in which the attachment of the extension part on the base is fixed in a housing (204) arranged in the lower part of the peripheral skirt (24).

14. (Amended) Capping according to claim 10 in which the large-diameter-skirt is provided with ease notches (26).

15. (Amended) Capping according to claim 14, in which the ease notches (26) are firstly cavities of trapezoid shape widening towards the base which facilitate the proper positioning of the large-diameter-skirt (22) on the arms (18, 18a) crossing over the large-diameter-opening (15) of the tube head, and secondly are cavities which facilitate product flow

towards the large-diameter-opening.

16. (Amended) Service cap according to claim 10 in which the peripheral contour of the base is an ellipse and in which the diameter of the large-diameter-skirt lies between 0.5 and 0.9 times the short axis of said ellipse.

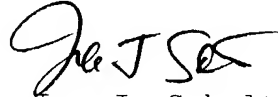
17. (Amended) Dispenser tube intended to store and dispense liquid products of varying viscosity in the form of gels, creams or pastes, characterized in that it is obtained by assembling the flexible tube according to claim 1 with a capping comprising a base (21) whose outer contour follows the shape of the orthogonal section of the skirt of said tube and is fitted with a large-diameter-skirt (22) whose diameter typically lies between $0.5 \cdot D$ and $0.9 \cdot D$, D being the diameter of the largest circle inscribed in the outer contour of said base, said large-diameter-skirt having a height less than D , and being provided with substantially irreversible fixing means (23) to fix the capping (20, 200) to the head (10) of tube (1).

REMARKS

The claims have been amended to delete all multiple dependencies, and to generally place the claims in better form for US practice.

Attached is the search report of the corresponding PCT application, together with copies of the references cited therein, which are listed on the attached Form PTO-1449.

Respectfully submitted,



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APPENDIX

IN THE SPECIFICATION:

Page 1, line 3, [Technical domain] Field of the invention;

line 14, [Prior] Description of related art.

Page 3, line 18, {Subject] Summary of the invention.

IN THE CLAIMS:

4. (Amended) Tube according to claim 2 [or 3], characterized in that the orthogonal section of the skirt (2) is not a circle centred over the axis of the large-diameter-opening (15), so that the capping (20) is also locked in rotation when it reaches its end position.

5. (Amended) Tube according to [any of claims 1 to 4] claim 1, in which the head (10) is fitted with an end wall comprising bosses (13) entering the inner volume of the end of the skirt (2), each boss (13) having a bottom wall (14) whose slope is inclined relative to the plane that is perpendicular to the axis of the opening.

6. (Amended) Tube according to [any of claims 1 to 5] claim 1, in which said bosses (13) have a side wall (16) whose shape is deduced by staggering the shape of the skirt (2) and of the circular cylindrical wall (11) surrounding the large-diameter-opening (15), the stagger distance being less than $D/10$.

7. (Amended) Tube according to [any of claims 1 to 6] claim 1, in which the lower part of the head (10) is fitted with a jutting part (17) oriented towards the inside of the tube.

9. (Amended) Tube according to [any of claims 5 to 8] claim 5, in which the section of the skirt (2) is an ellipse, the diameter of the large-diameter-opening (15) lies between 0.5 and 0.9 times the short axis of the ellipse, and in which the bosses (13) occupy the complementary parts of the ellipse formed by two zones extending around the long axis of the ellipse and have a side wall (16) deduced by inner displacement of the elliptic skirt (2) over a distance in the order of one millimetre and outer displacement of the circular cylindrical wall (11) surrounding the large-diameter-opening (15).

10. (Amended) Capping (20), in particular a service-cap (20), able to be fixed in substantially irreversible manner to the head of the tube, according to [any of claims 1 to 9] claim 1, characterized in that it comprises a base (21) whose outer contour follows the shape of the orthogonal section of the skirt of said tube and is fitted with a large-diameter-skirt (22) whose diameter typically lies between $0.5 \cdot D$ and $0.9 \cdot D$, D being the diameter of the largest circle inscribed in the outer contour of said base, said large-diameter-skirt

having a height less than D, preferably less than D/3 and being provided with substantially irreversible fixing means (23) to fix the capping (20, 200) to the head (10) of tube (1).

12. (Amended) Capping according to claim 10 [or 11], in which the base (21) is fitted with a peripheral skirt intended to be inserted around the edge of the tube head [according to any of claims 2 to 9].

13. (Amended) Service-cap according to [any of claims 10 to 12] claim 10, comprising a base (21) and a cap end (201) pivoting around a hinge (202 and 203), said hinge comprising at least one extension part (203), in which the attachment of the extension part on the base is fixed in a housing (204) arranged in the lower part of the peripheral skirt (24).

14. (Amended) Capping according to [any of claims 10 to 13] claim 10 in which the large-diameter-skirt is provided with ease notches (26).

15. (Amended) Capping according to claim 14, in which the ease notches (26) are firstly cavities of trapezoid shape widening towards the base which facilitate the proper positioning of the large-diameter-skirt (22) on the arms (18, 18a) crossing over the large-diameter-opening (15) of the tube head [according to claims 8 and 9], and secondly are cavities which facilitate product flow towards the large-diameter-

opening.

16. (Amended) Service cap according to [any of claims 10 to 15] claim 10 in which the peripheral contour of the base is an ellipse and in which the diameter of the large-diameter-skirt lies between 0.5 and 0.9 times the short axis of said ellipse.

17. (Amended) Dispenser tube intended to store and dispense liquid products of varying viscosity in the form of gels, creams or pastes, characterized in that it is obtained by assembling the flexible tube according to [any of claims 1 to 9] claim 1 with [the] a capping [according to any of claims 10 to 16] comprising a base (21) whose outer contour follows the shape of the orthogonal section of the skirt of said tube and is fitted with a large-diameter-skirt (22) whose diameter typically lies between $0.5 \cdot D$ and $0.9 \cdot D$, D being the diameter of the largest circle inscribed in the outer contour of said base, said large-diameter-skirt having a height less than D , and being provided with substantially irreversible fixing means (23) to fix the capping (20, 200) to the head (10) of tube (1).